IN THE CLAIMS:

Claims 1-26 have been cancelled.

1-26. (Cancelled).

27. (Previously Presented) An implantable medical apparatus for detecting diastolic heart failure (DHF), comprising:

a pressure measuring unit adapted to interact with a living subject to measure an absolute pressure value at a location and time selected from the group consisting of the left atrium during the diastasis phase immediately preceding an atrial contraction, and the pulmonary vein when the pulmonary valve is closed, both for a predetermined workload situation of the subject and a rest situation of the subject for a predetermined workload situation of the subject and for a rest situation of the subject; and

a calculation unit supplied with said absolute pressure value for said predetermined workload situation and said pressure value for said rest situation, said calculation unit forming a difference, ΔP, between said absolute pressure value for said predetermined workload situation and said absolute pressure value for said rest situation, and comparing said difference ΔP to a predetermined pressure difference reference value to obtain a comparison result indicative of a DHF state of the heart of the subject.

28. (Previously Presented) An apparatus as claimed in claim 27, comprising an activity sensor adapted to interact with the subject to detect physical activity of the subject, said activity sensor emitting an activity signal, and a workload

calculator supplied with said activity signal that calculates a workload situation of the subject from said activity signal, said workload calculator emitting an output to said calculation unit indicative of said workload situation.

Claim 29 has been amended as follows:

29.   (Currently Amended)   An apparatus as claimed in claim [[1]] 27 wherein said pressure measuring unit measures said absolute value of said pressure at the left atrium during the diastasis phase immediately preceding an atrial contraction, and wherein said apparatus comprises a pressure compensator, supplied with said absolute value of said pressure for said predetermined workload situation and said absolute value of said pressure for said rest situation, that corrects each of said absolute pressure values with a correction value selected from the group consisting of average pressure in the right atrium, and average pressure in the vena cava close to the right atrium.

30.   (Previously Presented)   An apparatus as claimed in claim 27 comprising:

an impedance measuring unit having a first electrode adapted for implantation in the left ventricle of the heart and a second electrode adapted for implantation at a location in a subject at which a substantial portion of variations in impedance occur due to a changing volume of the left ventricle;

said impedance measuring unit determining a difference ΔV, from respective signals from said first and second electrodes representing an impedance value measured for said predetermined workload situation and an impedance value measured for said rest situation;

a quotient forming unit that forms a quotient $\Delta P / \Delta V$ and that supplies a signal representing said quotient to said calculation unit; and

said calculation unit comparing said quotient with a predetermined quotient reference value, as said predetermined pressure difference reference value, to obtain said comparison result.

31.   (Previously Presented) An apparatus as claimed in claim 30 wherein said pressure measuring unit measures said absolute pressure value for each of said predetermined workload situation and said rest situation over a plurality of cardiac cycles, and wherein said apparatus comprises an averaging unit that forms a first average value of said absolute pressure values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said absolute pressure values for said plurality of cardiac cycles for said rest situation, and wherein said calculation unit forms said difference ΔP from said first and second average values.

32.   (Previously Presented) An apparatus as claimed in claim 30 wherein said impedance measuring unit measures said impedance value for each of said predetermined workload situation and said rest situation over a plurality of cardiac cycles, and wherein said apparatus comprises an averaging unit that forms a first average value of said impedance values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said impedance values for said plurality of cardiac cycles for said rest situation, and wherein said calculation unit forms said difference ΔV from said first and second average values.

33.   (Previously Presented) An apparatus as claimed in claim 27 wherein said pressure measuring unit measures said absolute pressure value for each of

said predetermined workload situation and said rest situation over a plurality of cardiac cycles, and wherein said apparatus comprises an averaging unit that forms a first average value of said absolute pressure values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said absolute pressure values for said plurality of cardiac cycles for said rest situation, and wherein said calculation unit forms said difference ΔP from said first and second average values.

34   (Previously Presented)   An apparatus as claimed in claim 27 comprising a wireless communication unit connected to said calculation unit that automatically wirelessly transmits said comparison result to an external receiver.

35.   (Previously Presented) An apparatus as claimed in claim 27 comprising a memory connected to said calculation unit that stores said comparison result.

36.   (Previously Presented) An implantable cardiac pacemaker comprising:

a diastolic heart failure (DHF) determining device comprising a pressure measuring unit adapted to interact with a living subject to measure an absolute pressure value at a location and time selected from the group consisting of the left atrium during the diastasis phase immediately preceding an atrial contraction, and the pulmonary vein when the pulmonary valve is closed, both for a predetermined workload situation of the subject and a rest situation of the subject for a predetermined workload situation of the subject and for a rest situation of the subject, and a calculation unit supplied with said absolute pressure value for said predetermined workload situation and said pressure value for said

rest situation, said calculation unit forming a difference, ΔP, between said absolute pressure value for said predetermined workload situation and said absolute pressure value for said rest situation, and comparing said difference ΔP to a predetermined pressure difference reference value to obtain a comparison result indicative of a DHF state of the heart of the subject; and

a therapy administration unit adapted to interact with the heart of the subject to administer electrical cardiac therapy thereto, said therapy administration unit being connected to said DHF determining device, and being supplied with said comparison result, and administering said electrical cardiac therapy dependent on said comparison result.

37. (Previously Presented) An apparatus as claimed in claim 36, comprising an activity sensor adapted to interact with the subject to detect physical activity of the subject, said activity sensor emitting an activity signal, and a workload calculator supplied with said activity signal that calculates a workload situation of the subject from said activity signal, said workload calculator emitting an output to said calculation unit indicative of said workload situation.

38. (Previously Presented) A pacemaker as claimed in claim 37 wherein said activity sensor is a pressure sensor.

39. (Previously Presented) An apparatus as claimed in claim 38 wherein said pressure measuring unit measures said absolute value of said pressure at the left atrium during the diastasis phase immediately preceding an atrial contraction, and wherein said apparatus comprises a pressure compensator, supplied with said absolute value of said pressure for said predetermined workload situation and said

absolute value of said pressure for said rest situation, that corrects each of said absolute pressure values with a correction value selected from the group consisting of average pressure in the right atrium, and average pressure in the vena cava close to the right atrium.

40. (Previously Presented) A method for detecting diastolic heart failure (DHF), comprising the steps of:

measuring an absolute pressure value in vivo in a subject at a location and time selected from the group consisting of the left atrium during the diastasis phase immediately preceding an atrial contraction, and the pulmonary vein when the pulmonary valve is closed, both for a predetermined workload situation of the subject and a rest situation of the subject for a predetermined workload situation of the subject and for a rest situation of the subject; and

electronically forming a difference, ΔP, between said absolute pressure value for said predetermined workload situation and said absolute pressure value for said rest situation, and electronically comparing said difference ΔP to a predetermined pressure difference reference value to obtain a comparison result indicative of a DHF state of the heart of the subject.

41. (Previously Presented) A method as claimed in claim 40 comprising:

measuring impedance values with a first electrode implanted in the left ventricle of the heart and a second electrode implanted at a location in a subject at which a substantial portion of variations in impedance occur due to a changing volume of the left ventricle;

electronically determining a difference ΔV, from respective signals from said first and second electrodes representing an impedance measured for said predetermined workload situation and an impedance measured for said rest situation;

electronically forming a quotient $\Delta P/\Delta V$; and

wherein the step of electronically comparing comprises comparing said quotient with a predetermined quotient reference value, as said predetermined pressure difference reference value, to obtain said comparison result.

42. (Previously Presented) A method as claimed in claim 41 comprising, in a calibration procedure, measuring instantaneous values of said left ventricular volume with an ultrasound technique and establishing a relation between the ultrasonically measured ventricular values and said impedance values measured simultaneously therewith.

43. (Previously Presented) A method as claimed in claim 41 comprising measuring said absolute pressure value for each of said predetermined workload situation and said rest situation over a plurality of cardiac cycles, and electronically forming a first average value of said absolute pressure values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said absolute pressure values for said plurality of cardiac cycles for said rest situation, and electronically forming said difference ΔP from said first and second average values.

44. (Previously Presented) A method as claimed in claim 41 comprising measuring said impedance value for each of said predetermined workload situation

-8-

and said rest situation over a plurality of cardiac cycles, and electronically forming a first average value of said impedance values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said impedance values for said plurality of cardiac cycles for said rest situation, and electronically forming said difference ΔV from said first and second average values.

45. (Previously Presented) A method as claimed in claim 41 comprising measuring said impedance values for said predetermined workload situation of the subject when said subject is not suffering from DHF and determining said reference value therefrom, and measuring said impedance values for said rest situation when said patient is not suffering from DHF and said determining said reference value therefrom.

46. (Previously Presented) A method as claimed in claim 40 comprising measuring said absolute pressure value for each of said predetermined workload situation and said rest situation over a plurality of cardiac cycles, and electronically forming a first average value of said absolute pressure values for said plurality of cardiac cycles for said predetermined workload situation and a second average value of said absolute pressure values for said plurality of cardiac cycles for said rest situation, and electronically forming said difference ΔP from said first and second average values.

47. (Previously Presented) A method as claimed in claim 40 comprising automatically wirelessly transmitting said comparison result to an external receiver.

48. (Previously Presented) A method as claimed in claim 40 comprising electronically storing said comparison result.

49. (Previously Presented) A method as claimed in claim 40 comprising measuring said pressure values for said predetermined workload situation of the subject when said subject is not suffering from DHF and determining said reference value therefrom, and measuring said pressure values for said rest situation when said patient is not suffering from DHF and determining said reference value therefrom.